ADCATHERM FRECO
FLASH STEAM HEAT RECOVER

DESCRIPTION

The Adcatherm Freco – flash steam heat recovery unit – is a skid mounted package unit to facilitate heat recovery from flash steam, condensate or both.

The Freco is ideally recommended for heating continuous flow of fluid, such as make-up water to a boiler feed water system.

Non-continuous flow applications may require additional recirculation, relief valves or other devices to avoid system damage doing to overheating and consequent overpressure.

It is known that the condensate return and its recovery is benefic and ensures a remarkable energetic efficiency. However, the condensate which is initially at high temperatures ends up expanding and losing most of its energy through the formation of flash steam. On the other hand, feed water temperatures higher than 90ºC to the boiler feed pumps when coming from atmospheric vessels will normally cause cavitation on the pumps with all the consequent damages.

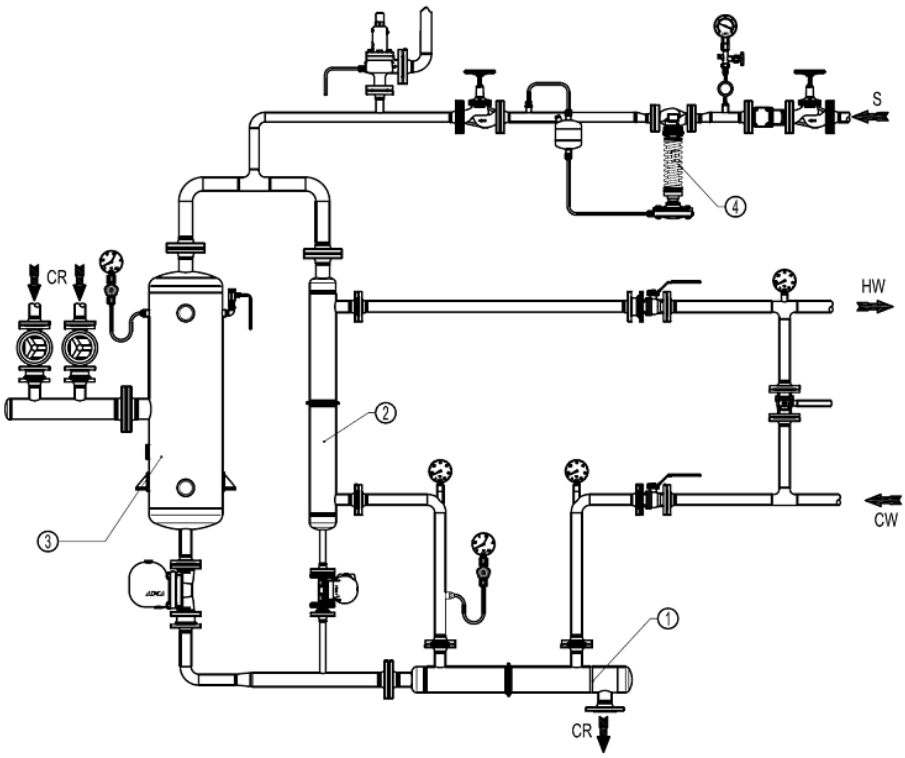
The Freco system prevents this problem since it is installed downstream of the pumps, using the high pressures which can be found there to allow the heating of the condensate above 100ºC without the existence of any boiling and naturally placing the cavitation out from the equation.

MAIN FEATURES

Different kinds of materials and designs available, according to the application.

OPTIONS:	Atmospherically vented units, to avoid extra back pressure in the condensate return system.
USE:	Steam, water, hot condensate and other fluids compatible with the construction.
ORDER REQUIREMENTS:	Condensate flow rate and temperature Make-up water flow rate and temperature Operating pressures Steam boiler(s) capacity and operating pressure

TYPICAL INSTALLATION



The condensate return (CR) is expanded on a flash vessel (3). The flash steam which is produced there and the remaining condensate are then directed to the respective heat exchangers (1 e 2) where in the meanwhile the pressurized feed water (CW) is heated (HW) before it passes to the economizer or be directly introduced into the steam boiler (it is recommended to install a by-pass from CW to HW).
The final condensate will then be recovered to the condensate tank, not being at this stage sufficiently hot to cause the feed water overheating.
A pressure reducing station (4) may be considered to ensure the thermal stability of the system.